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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/550,756

07/24/2006

Klaus Gottschall

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7590

06/01/2009

THE FIRM OF HUESCHEN AND SAGE
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EXAMINER

BASS, DIRK R

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

06/01/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/550,756	Applicant(s) GOTTSCHALL, KLAUS	
	Examiner DIRK BASS	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-56 is/are pending in the application.
- 4a) Of the above claim(s) 22-37 and 54-56 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 38-53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/29/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's election with traverse of group II, claims 38-53 in the reply filed on 24 April 2009 is acknowledged. The traversal is on the ground(s) that Hutchens et al., WO 98/59360 do not teach the common linking feature unifying the inventions of groups I-V. This is not found persuasive because Hutchens clearly describes sorbents having at least two different groups ("mixed function", fig. 1). The limitation that contributions of the Gibbs energies of the individual groups result in a negative value of Gibbs energy is an inherent property disclosed in Hutchens in the favorable binding of analytes to said sorbents having at least two different groups.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 38-53** are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Hutchens et al., WO 98/59360 (Hutchens) as evidenced by Hsich et al., US 6176268 (Hsich).

Regarding claims 38 and 43-44, Hutchens discloses a method of retentate chromatography for resolving analytes in a sample (abstract) comprising:

- a. Determining at least two groups capable of binding a sorbent from a synthetic or natural first substrate (implicitly disclosed on pg. 7, l. 13-25, pg. 19, l. 4-11, and fig. 1);
- b. Respectively applying at least two different groups capable of binding a second synthetic or natural substrate to one respective carrier, thereby forming at least one sorbent, whereby the groups are the same groups of step (a) and the second substrate is the same as the first substrate according to step (a) (pg. 30, l. 19-30 and fig. 1);

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- c. Contacting the at least one second substrate that is the same as the first substrate according to (a) with at least one sorbent of step (b) (pg. 26, l. 28-30);
- d. Testing the binding strength of the at least one second substrate to the at least one sorbent of step (c) (implicitly disclosed on pg. 26, l. 27-30); and
- e. Whereby the groups are determined such that the contributions of the Gibbs energies of the individual groups to the non-covalent bond with the second substrate yield a negative value of the Gibbs energy, such that a binding strengthening occurs that results in improved separation selectivity with respect to at least one substance to be separated off.

Regarding the limitation of step (e) above, it is inherent in Hutchens as evidenced by Hsich that the Gibbs free energy contribution of binding events between the retained analyte and the sorbent are negative, indicating a favorable binding event that occurs without the addition of energy (col. 8, l. 10-20).

Regarding claims 39-40, it is inherent in Hutchens that the substrates (see “analytes”) contain at least two components, each component having at least two binding groups (pg. 7, l. 9-12, pg. 19, l. 1-3, and pg. 21, l. 13—pg. 22, l. 11).

Regarding claims 41-42, Hutchens discloses a method characterized in that the at least one first substrate is the same or is different from the at least one second substrate (pg. 19, l. 1-3, and pg. 21, l. 13 - pg. 22, l. 11), and the at least two different groups capable of binding the second substrate, respectively, are selected among those groups that are complementary to the groups which are determined in step (a). It is implicit in the disclosure of Hutchens that the binding groups of the adsorbents are determined in such a way so as to form a complementary pair with the analyte of interest.

Regarding claims 45-46, Hutchens discloses a method characterized in that the at least two different groups capable of binding of the at least one sorbent or to the at least one second substrate are selected among groups which are part of amino acids, sugars, nucleotides, nucleosides, pyrimidine bases and purine bases (pg. 19, l. 1-3, and pg. 21, l. 13 - pg. 22, l. 11).

Regarding claims 47-48, Hutchens discloses a method characterized in that the at least two different groups in step (b) are covalently bonded to a polymer by means of polymerization (pg. 30, l. 19-30).

Regarding claims 49-50, Hutchens discloses a method characterized in that in step (b) the at least two different groups capable of binding a second substrate are applied onto a carrier via activating reagents, and the groups consist of amine and carboxyl (see "affinity reagent", pg. 30, l. 19-30).

Regarding claims 51-53, Hutchens discloses a method additionally comprising the steps of isolating the second substrate, and characterizing and identifying the at least one second substrate (pg. 3, l. 28 - pg. 4, l. 4), wherein said second substrate comprises amino acids (pg. 19, l. 1-3, and pg. 21, l. 13 - pg. 22, l. 11).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DIRK BASS whose telephone number is (571) 270-7370. The examiner can normally be reached on Mon - Fri (9am-4pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on (571) 272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

5/28/2009

/DRB/

/Yelena G. Gakh/
Primary Examiner, Art Unit 1797